

***Mycobacterium iranicum*, Strain M05T**

**Catalog No. NR-49086**

**Product Description:** *Mycobacterium iranicum* (*M. iranicum*), strain M05T was isolated in 2008 from the bronchoalveolar lavage of a 60-year-old female patient with chronic pulmonary disease in Iran.

**Lot<sup>1</sup>: 64362399**

**Manufacturing Date: 11JUL2016**

TEST	SPECIFICATIONS	RESULTS
<b>Phenotypic Analysis<sup>2,3</sup></b> Cellular morphology Colony morphology <sup>4</sup>  Growth on MacConkey agar (without crystal violet) Growth rate Growth at 45°C Growth at 55°C Acid-fast stain Biochemical tests Nitrate reduction Aryl sulfate (3 days) Aryl sulfate (14 days) Iron uptake Growth in the presence of 5% sodium chloride Growth in the presence of thiophene-2-carboxylic acid hydrazide (TCH)	Report results Report results  Negative ≤ 7 days Negative Report results Positive (red colonies)  Negative Positive Report results Positive Positive Positive	Rods Circular, convex, entire, smooth and orange (Figure 1) Negative 4 days Negative Negative Positive (red colonies)  Negative Negative <sup>5</sup> Positive Positive Positive Positive
<b>Genotypic Analysis</b> Sequencing of 16S ribosomal RNA gene (1450 base pairs)  Digital DNA-DNA hybridization (dDDH) <sup>6</sup>	≥ 99% sequence identity to <i>M. iranicum</i> type strain (GenBank: HQ009482.1) ≥ 70% for species identification	100% sequence identity to <i>M. iranicum</i> type strain (GenBank: HQ009482.1) <i>M. iranicum</i> (98.5%) <sup>7</sup>
<b>Purity (post-freeze)</b> Middlebrook 7H10 agar with OADC enrichment <sup>8</sup>  Tryptic Soy agar <sup>8</sup>	Growth consistent with expected colony morphology Report results	Growth consistent with expected colony morphology Growth consistent with expected colony morphology
<b>Viability (post-freeze)<sup>4</sup></b>	Growth	Growth

<sup>1</sup>NR-49086 was produced by inoculation of the deposited material in Middlebrook 7H9 broth with ADC enrichment for 5 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>. Broth inoculum was added to Middlebrook 7H10 agar with OADC enrichment kolles, which were grown for 5 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> to produce this lot.

<sup>2</sup>Information on Mycobacterium testing is available from Ribón, W. "Biochemical Isolation and Identification of Mycobacteria." *Biochemical Testing*. (2012) Jose C. Jimenez-Lopez (Ed.), InTech, <http://www.intechopen.com/books/biochemical-testing/biochemical-isolation-and-identification-of-mycobacteria> and Lévy-Frébault, V. V. and F. Portaels. "Proposed Minimal Standards for the Genus *Mycobacterium* and for Description of New Slowly Growing *Mycobacterium* Species." *Int. J. Syst. Bacteriol.* 42 (1992): 315-323. PubMed: 1581193.

<sup>3</sup>Phenotypic characterization of *M. iranicum* was performed following: Shojaei, H., et al. "*Mycobacterium iranicum* sp. nov., a Rapidly Growing Scotochromogenic Species Isolated from Clinical Specimens on Three Different Continents." *Int. J. Syst. Evol. Microbiol.* 63 (2013): 1383-1389. PubMed: 22843713

<sup>4</sup>4 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub> on Middlebrook 7H10 agar with OADC enrichment

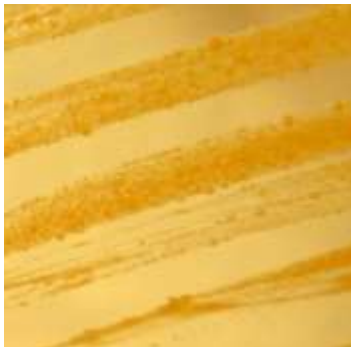
<sup>5</sup>NR-49086 was deposited as *M. iranicum* and reported to be positive for 3-day aryl sulfate activity. Testing performed in duplicate by BEI Resources indicates a negative result.

<sup>6</sup>Relatedness between bacterial strains has traditionally been determined using dDDH. For additional information refer to Auch, A.F., et al. "Digital DNA-DNA Hybridization for Microbial Species Delineation by Means of Genome-to-Genome Sequence Comparison." *Stand Genomic Sci.* 2 (2010): 117-134. PubMed: 21304684.

<sup>7</sup>The whole genome of *M. iranicum*, strain M05T (Contig Total Length ~ 6.4 megabase pairs) was sequenced using the Illumina® MiSeq® system and was assembled and analyzed with CLC Genomics Workbench Version 7.0.2.

<sup>8</sup>Purity of this lot was assessed for 8 days at 37°C in an aerobic atmosphere with 5% CO<sub>2</sub>.

**Figure 1: Colony Morphology**



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